DELIVERABLE

Project Acronym:	LITES
Grant Agreement number:	238916
Project title:	Led-based Intelligent Street Lighting for Energy Saving

D2.2. LITES luminaires produced

Revision: **Version 1**

Authors: Emmanuel Larat, Pascal Delrot (THORN EUROPHANE SA), Ansis Avotins (Riga Technical University), Luis Nero Alves (University of Aveiro).

Contributors: LITES consortium

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Dissemination Level		
P	Public	
C	Confidential, only for members of the consortium and the Commission Services	X

Revision History and Statement of Originality

Revision History

Revision	Date	Author	Organisation	Description
Draft 1	06-01-2014	Emmanuel Larat	THO	Draft 1 of the document
Draft 2	14-01-2014	Ansis Avotins	RTU	Contributions to the document
Draft 3	17-01-2014	Luis Nero Alves	UAV	Contributions to the document
Draft 4	21-01-2014	Ansis Avotins	RTU	Contributions to the document
Version 1	04-02-2014	Emanuell Larat	THO	Text revising

Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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Executive summary

The Deliverable D2.2. " LITES luminaires produced" deals with Task 2.3. "Toolkits fabrication for luminaires' production" and Task 2.4. "Production of the final LITES luminaires". The objective of this Deliverable is to allow preparing the embedding of all LITES subsystems (power supply, sensors, antenna, etc…), Integrate of all the subcomponents into the luminaires and check (test) the mechanical, electrical and optical performance of each luminaire before shipment to the Pilot Site shipping address (see Deliverable 8.1).

The final element selection and tests allow also developing installation documentation that is described in Deliverable 2.3.

Table of Contents

1 Luminaires' production for Riga, Bordeaux and Aveiro Pilot Sites

D3.8. "Electronic mock-up" already describes in details, all electronics that are embedded and used in the LITES luminary for Bordeaux, Riga and Aveiro Pilot Sites, like LEDs PCB, lenses, reflectors, PSU, communication node, antenna, sensors and their input data cable and needed wiring.

1.1 Production place

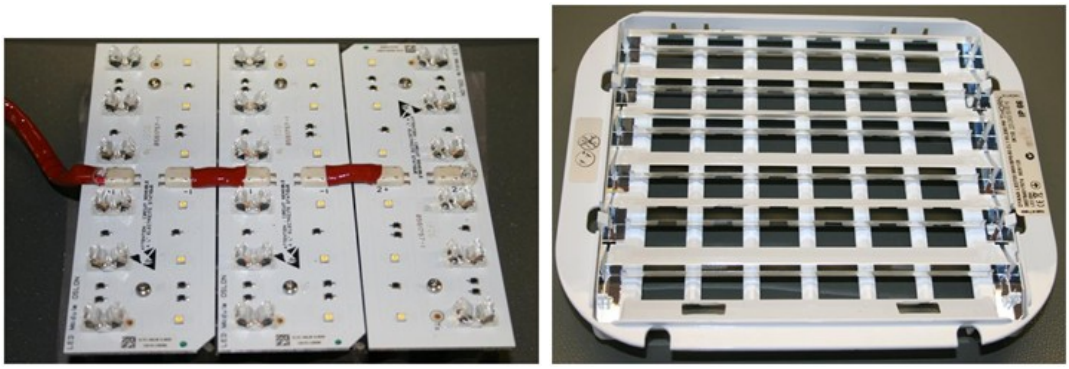
Both the LITES Dyanas (sent to Bordeaux and Riga PilotSites) and LITES Gladiators (sent to Aveiro PilotSite) were produced in Thorn Europhane factory address:

Thorn Europhane
Route de Paix
27700 Les Andelys
France

Fig.1. Factory location for LITES lumianry production.

1.2 LITES Luminary main parts

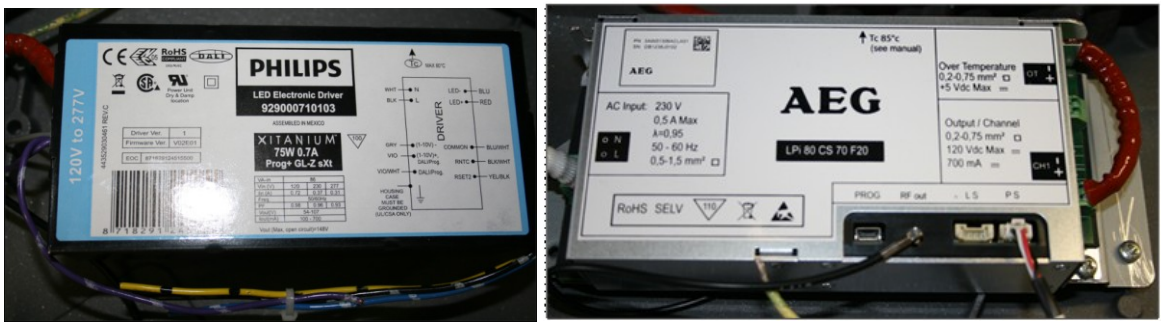
Each product has its own electrical and mechanical designs and schematics, when all necessary parts are obtained, like housing (body/hull), LED PCB, optics – reflectors and holder, power supply, communication node, wires and cables, connectors, screws, where Fig.2.-Fig.4. represents LITES Dyana luminary main parts and Fig.5.-Fig.9. represents LITES Gladiator luminary main parts.



a) LED PCB module b) plastic holder and aluminium reflector

Fig.2. LITES Dyana luminary light source elements.

Fig.3. LITES Dyana luminary ZigBee communication node for Philips power supply.



a) Philips power supply b) AEG powersupply with embedded ZigBee node

Fig.4. LITES Dyana luminary power source elements.

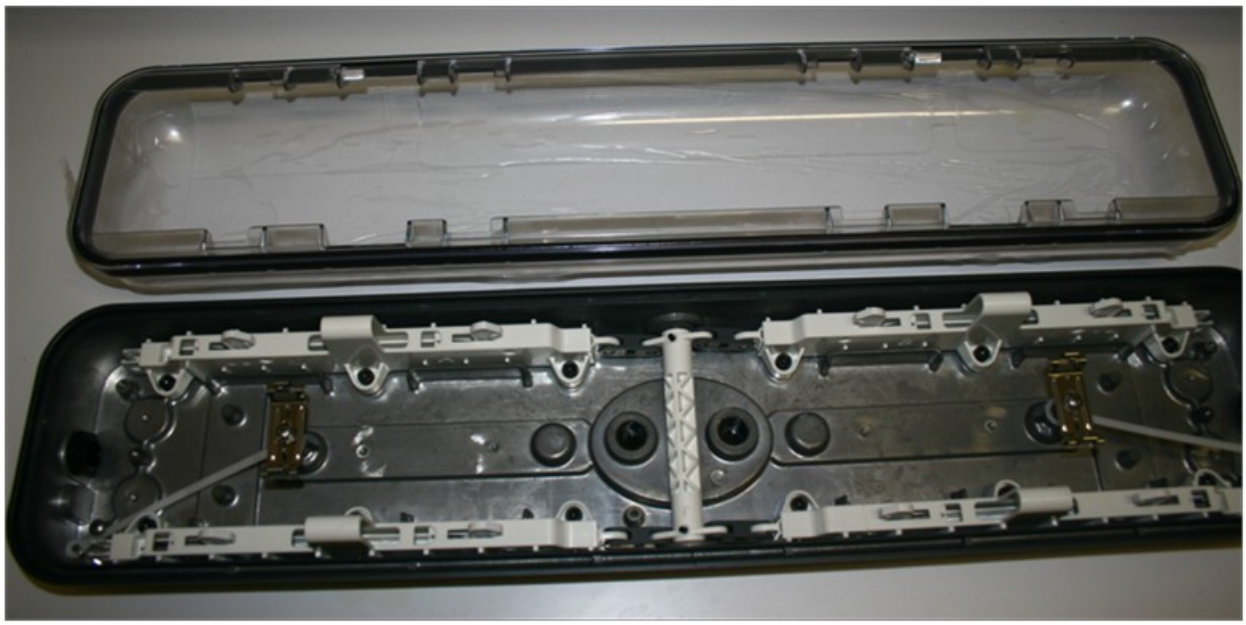


Fig.5. LITES Gladiator luminary body.

Fig.6. LITES Gladiator luminary LED PCB module.

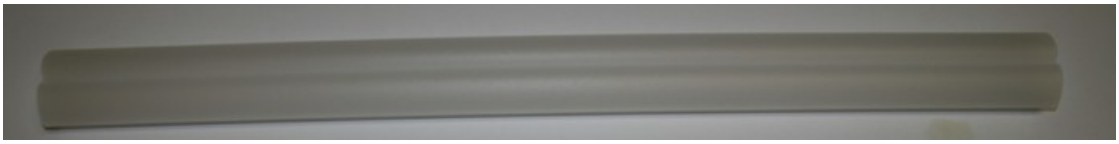


Fig.7. LITES Gladiator luminary optics (diffuser).

Fig.8. LITES Gladiator luminary power supply.

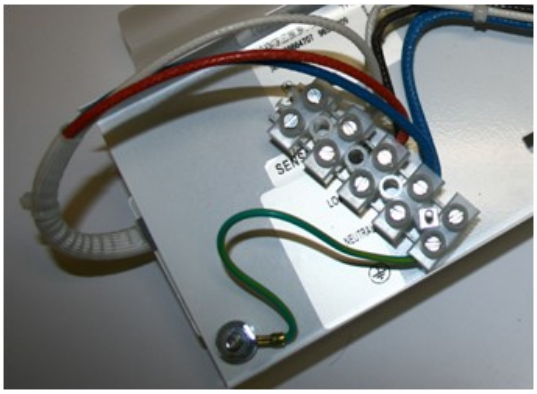


Fig.9. LITES Gladiator luminary connector and power cable.

1.3 Production process

When all necessary parts are obtained the assembly process can be started. The tools and tool-kits typically can be the same for both – LITES Dyana luminary or LITES Gladiator luminary. It is obvious, that Dyana has more elements, and therefore also its assembly process is more difficult and described in details within this document.

For manufacturing process efficiency and quality there is certain procedure how the luminary should be assembled, which part comes first, what action to do next, etc. Thus also the tools and toolkits are placed in specific sequence (see the green bold arrows in Fig. 10.).

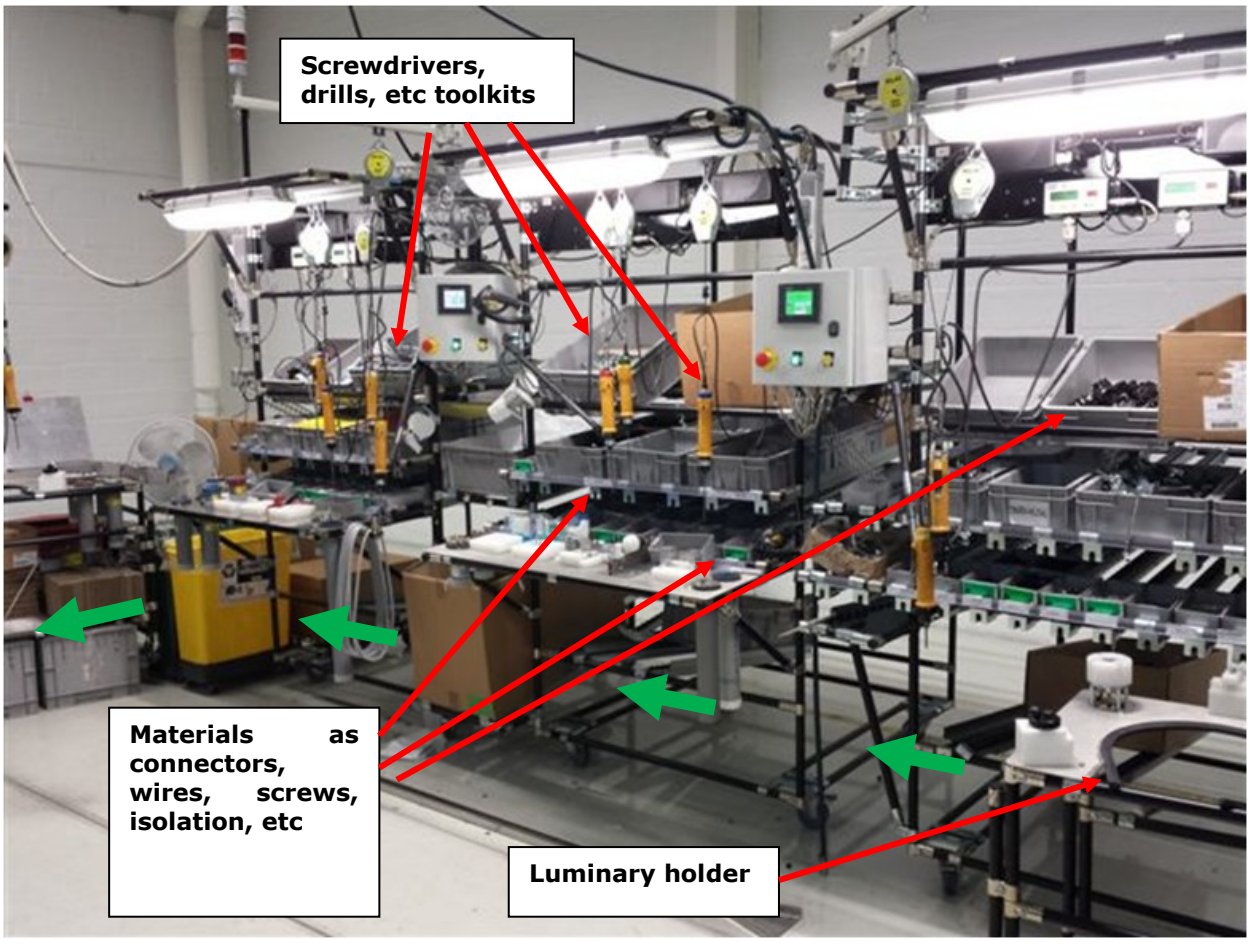


Fig.10. Toolkits for luminary production and sequence (green bold arrows).

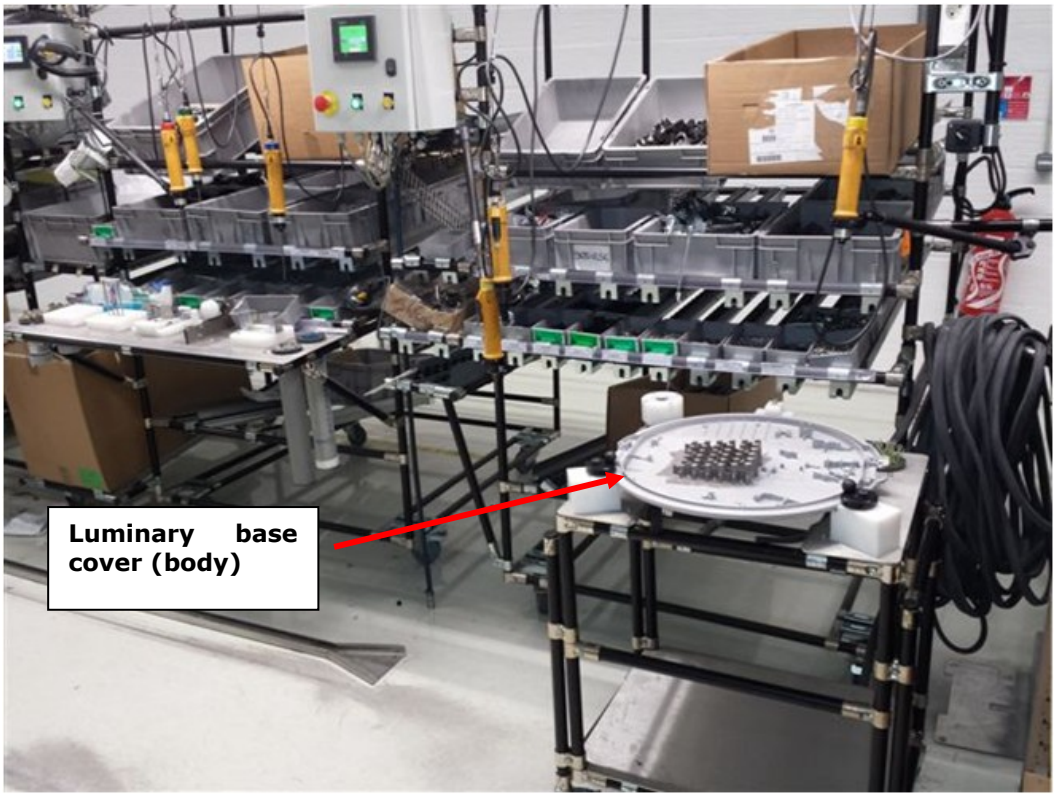


Fig.11. Luminary production process started.

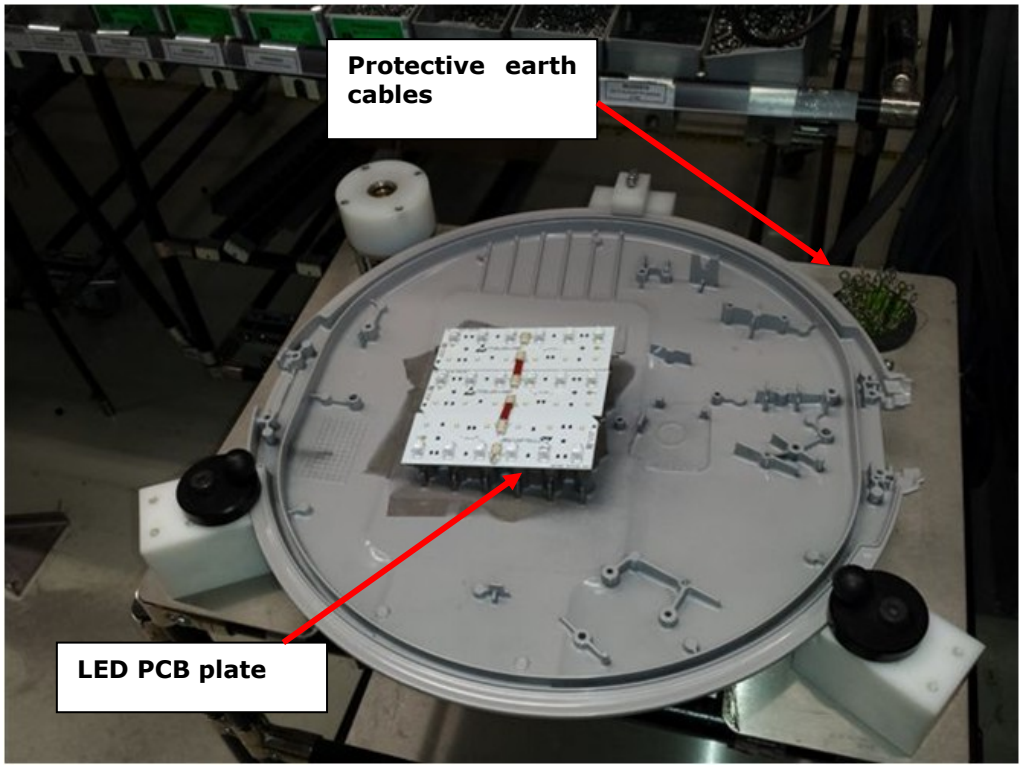


Fig.12. LED PCB mounting.

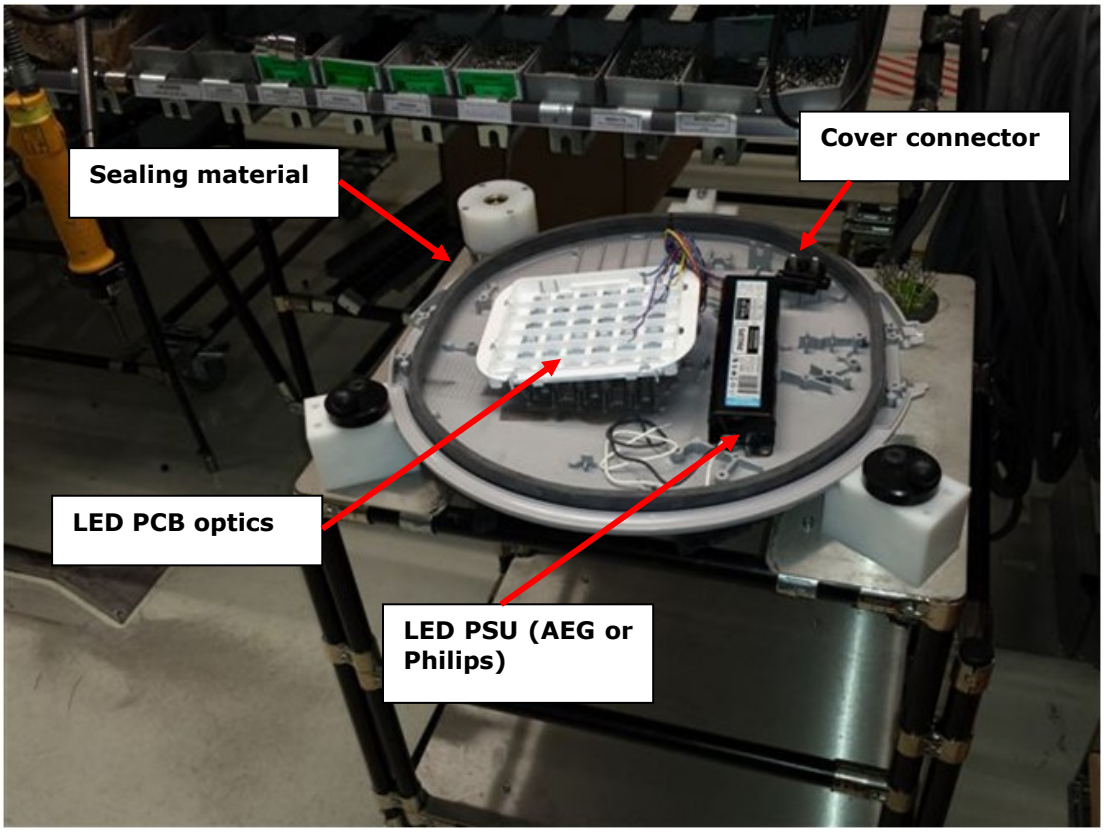


Fig.13. Installation of LED optics, power supply and cover connector.

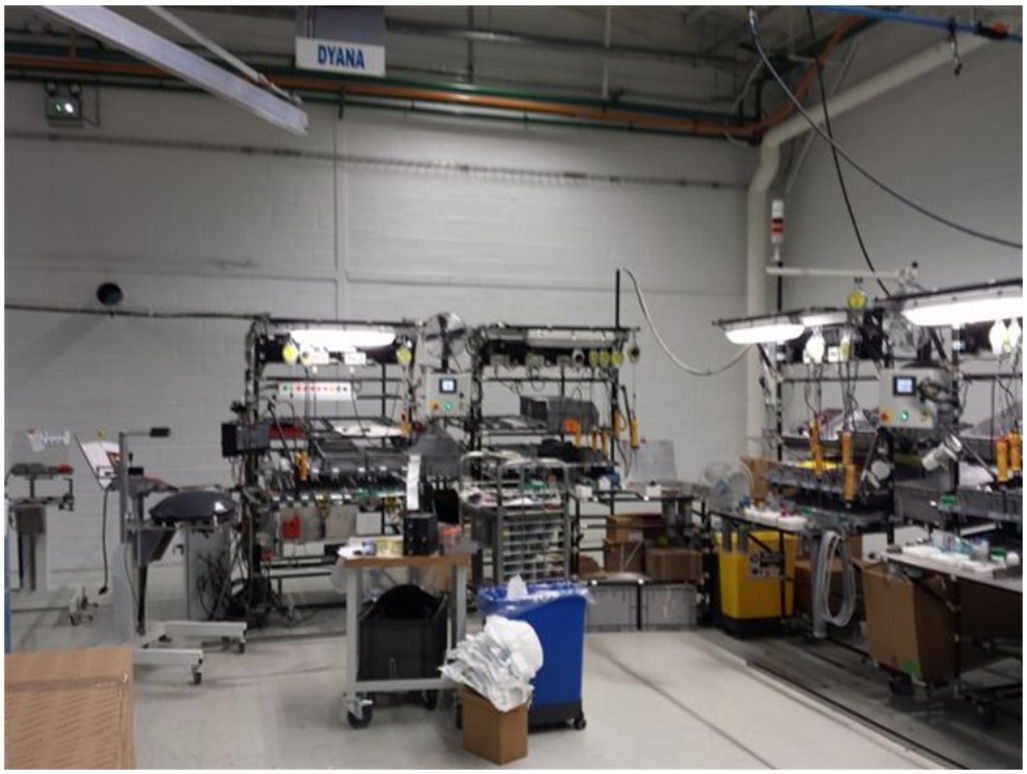


Fig.14. Installation of cable and upper cover of the luminary body.

Fig.15. Installation of upper cover of the luminary body and the sealing fixture.

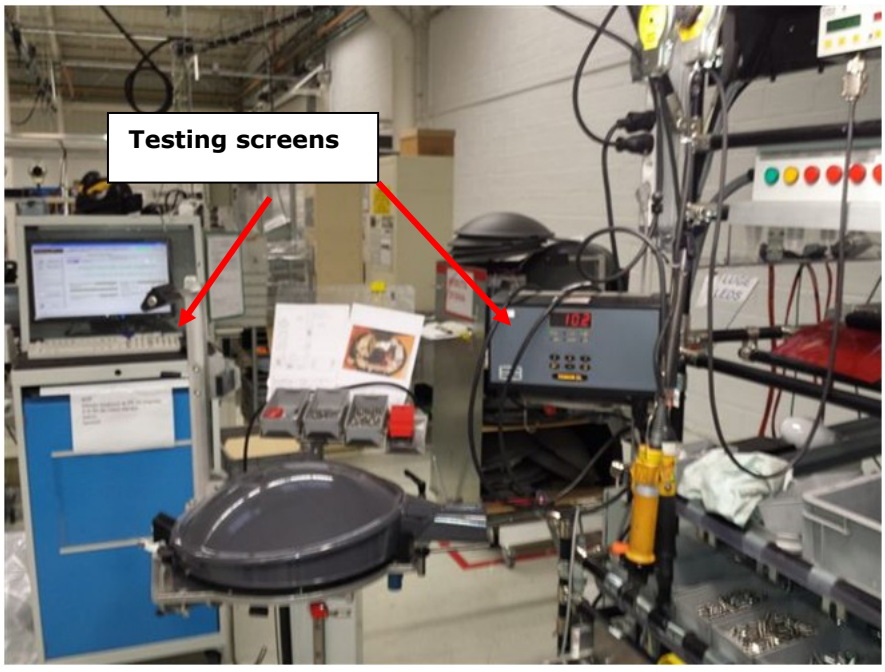


Fig.16. Final assembly process.

1.4 Luminaries assembled

After assembly luminaries are wrapped and put into the boxes, ready to be shipped to the Pilot Sites.

Fig.17. Assembled LITES Gladiator luminary.

Fig.18. Final LITES Gladiator luminary packed for shipment

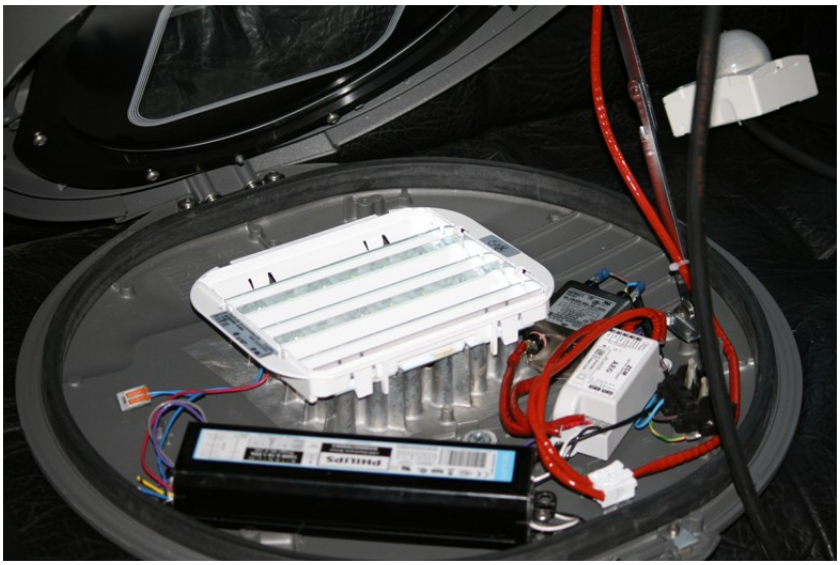


Fig.18. Final LITES Dyana luminary assembled

Fig.19. Final LITES Dyana luminary packed

1.5 Luminaries sent and received

Fig.20. LITES Dyana luminary shipment arrived at Riga.

Fig.20. LITES Dyana luminary shipment examination and part counting.

